

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-24 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 2-5 as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1 received by this Authority on 23.02.2006
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-5	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-5	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Document 1: JP 2003-149475 A (Nippon Kayaku Co., Ltd.), 21 May 2003, paragraphs [0006] to [0026] (Family: none)</p> <p>Document 2: JP 2003-43684 A (Nippon Kayaku Co., Ltd.), 13 February 2003, paragraphs [0025] to [0026] and [0070] (Family: none)</p> <p>Document 3: JP 3-223759 A (Kansai Paint Co., Ltd.), 02 October 1991, entire text &amp; EP 435262 A2 &amp; US 5045434 A &amp; KR 9401555 B &amp; CA 2032630 A</p> <p>Document 4: JP 11-288088 A (Kansai Paint Co., Ltd.), 19 October 1999, entire text &amp; US 6093518 A &amp; TW 476020 B</p> <p>Claims 1 to 5</p> <p>The inventions set forth in claims 1 to 5 do not involve an inventive step in the light of documents 1, 3 and 4, which are cited in the international search report, and document 2, which is newly cited.</p> <p>Document 1 discloses a photocurable resin composition for forming optical waveguides which comprises at least a photoradical polymerization initiator, a solvent and an ethylenically unsaturated group-containing carboxylic acid resin that includes at</p>			

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>least one ethylenically unsaturated group and at least one carboxyl group within the molecule; furthermore, document 1 also discloses optical waveguides that employ the composition in question. Notably, document 1 indicates that it is possible to add various epoxy resins to the aforementioned photocurable resin composition for forming optical waveguides, as necessary (refer to paragraphs [0022] and [0023]).</p> <p>Meanwhile, document 2 presents epoxy compounds as examples of hardening component (H), which is an optional component that can be used in a photosensitive resin composition for forming optical waveguides. Furthermore, the aforementioned hardening component (H) reacts with the residual carboxyl groups that remain upon the resin coating film after the photocuring process when heated, and thus it is preferable to employ the aforementioned hardening component (H) in order to obtain an even stronger hardened coating film (refer to paragraph [0025]). In addition, document 2 specifically presents bisphenol type epoxy resin compounds and novolak type epoxy resin compounds as examples of the epoxy compounds in question (refer to paragraph [0026] and the like).</p> <p>In the light of the abovementioned technical concept described in document 2, it would have been easy for a person skilled in the art to conceive of configuring so that the epoxy resin that is added to the photocurable resin composition for forming an optical waveguide, as necessary, in the invention disclosed in document 1 is a bisphenol type epoxy resin compound or a novolak type epoxy resin compound.</p> <p>In addition, claim 1 attempts to specify an object by means of the production method therefor. However,</p>

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

although claim 1 and document 1 disclose different methods for the production of carboxyl group-containing unsaturated resins, the carboxyl group-containing unsaturated resin (A) set forth in claim 1 and the ethylenically unsaturated group-containing carboxylic acid resin disclosed in document 1, which are obtained by means of these different methods, are substantially the same, and cannot be differentiated as resins.

Furthermore, the method for the production of the carboxyl group-containing unsaturated resin (A) set forth in claim 1 (which corresponds to the ethylenically unsaturated group-containing carboxylic acid resin disclosed in document 1) is also disclosed in documents 3 and 4. With regards to claims 3 and 5, configurations wherein a dry film is formed from a photocurable resin composition for forming optical waveguides are well known.